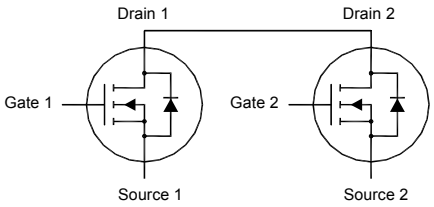
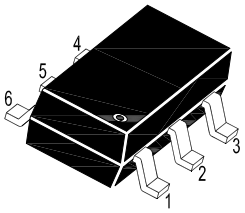
MMFTN2007D

N-Channel Logic Level Enhancement Mode Field Effect Transistor





1. Source 1 2. Drain 1,2 3. Source 2
4. Gate 2 5. Drain 1,2 6. Gate 1
Marking Code: 7N
SOT-26 Plastic package

Absolute Maximum Ratings (T_a = 25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	20	V
Drain-Gate Voltage	V_{GS}	± 12	V
Drain Current	I_D	6.5	A
Drain Current - Pulsed [1]	I_{DM}	25	A
Total Power Dissipation [2]	P_D	1.5	W
Operating Junction and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Juntion to Ambient [2]	$R_{\theta JA}$	83	℃/W

[1] Surface Mounted on FR4 Board, t ≤ 10 sec.

[2] Pulse width limited by Max. junction temperature.

Characteristics at T_a = 25℃ unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage at I_D = 250 µA	$V_{(BR)DSS}$	20	-	-	V
Drain-Source Leakage Current at V_{DS} = 20 V	I_{DSS}	-	-	1	µA
Gate-Source Leakage Current at V_{GS} = ± 12 V	I_{GSS}	-	-	± 0.1	µA
Gate-Source Threshold Voltage at V_{GS} = V_{DS}, I_D = 250 µA	$V_{GS(th)}$	0.5	-	1.2	V
Drain-Source On-State Resistance at V_{GS} = 4.5 V, I_D = 6 A at V_{GS} = 2.5 V, I_D = 5.5 A	$R_{DS(on)}$	- -	- -	22 27	mΩ
Forward Transconductance at V_{DS} = 5 V, I_D = 6 A	g_{FS}	-	10	-	S
Diode Forward Voltage at I_S = 6 A, V_{GS} = 0 V	V_{SD}	-	-	1.2	V
Input Capacitance at V_{DS} = 10 V, f = 1 MHz	C_{iss}	-	900	-	pF
Output Capacitance at V_{DS} = 10 V, f = 1 MHz	C_{oss}	-	220	-	pF
Reverse Transfer Capacitance at V_{DS} = 10 V, f = 1 MHz	C_{rss}	-	100	-	pF
Turn-On Delay Time at V_{DD} = 10 V, I_D = 6 A, V_{GS} = 4.5 V, R_{GEN} = 6 Ω	$t_{d(on)}$	-	-	20	ns
Turn-On Rise Time at V_{DD} = 10 V, I_D = 6 A, V_{GS} = 4.5 V, R_{GEN} = 6 Ω	t_r	-	-	25	ns
Turn-Off Delay Time at V_{DD} = 10 V, I_D = 6 A, V_{GS} = 4.5 V, R_{GEN} = 6 Ω	$t_{d(off)}$	-	-	70	ns
Turn-Off Fall Time at V_{DD} = 10 V, I_D = 6 A, V_{GS} = 4.5 V, R_{GEN} = 6 Ω	t_f	-	-	60	ns

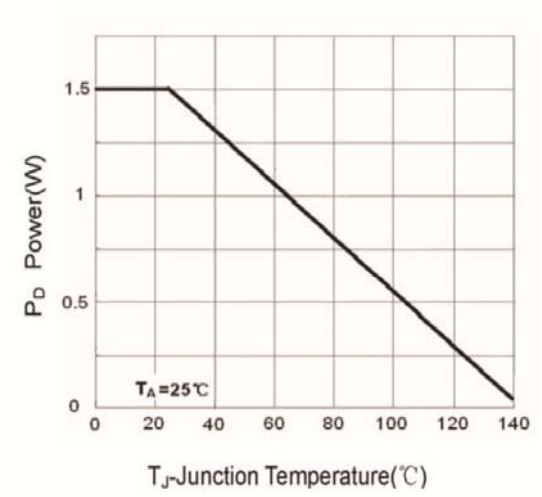


Figure 1 Power Dissipation

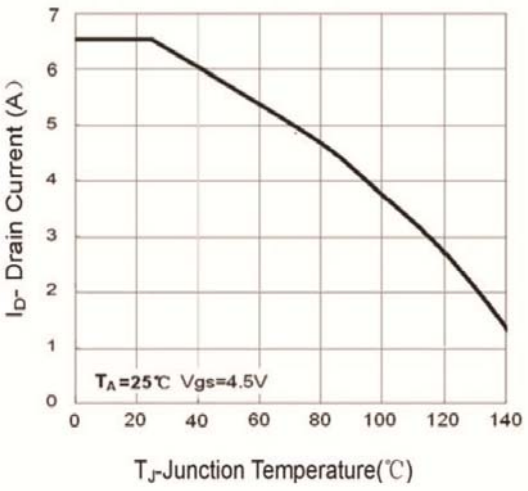


Figure 2 Switching Waveforms

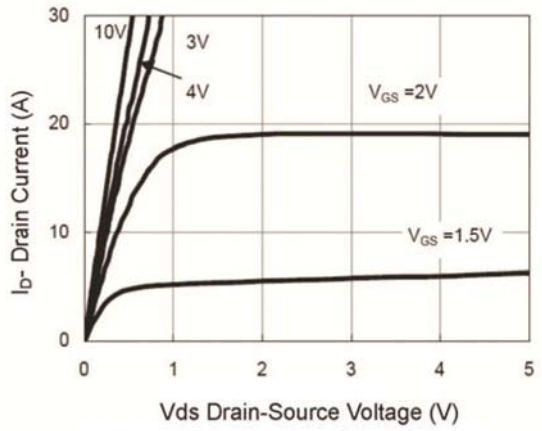


Figure 3 Output Characteristics

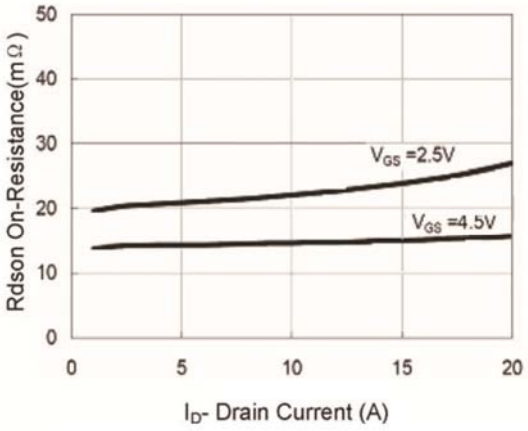


Figure 4 Drain-Source On-Resistance

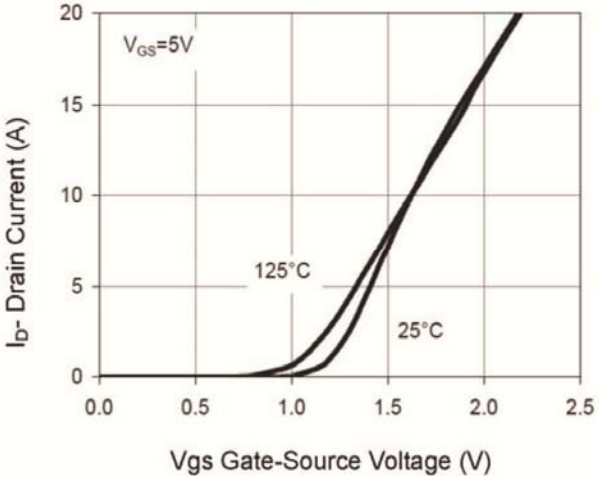


Figure 5 Transfe Characteristics

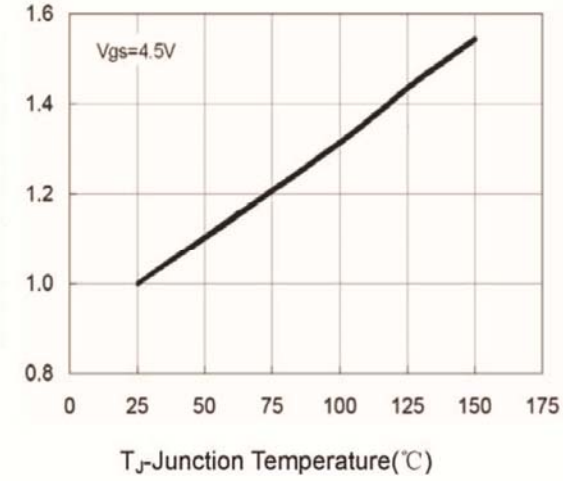


Figure 6 Drain-Source On-Resistance

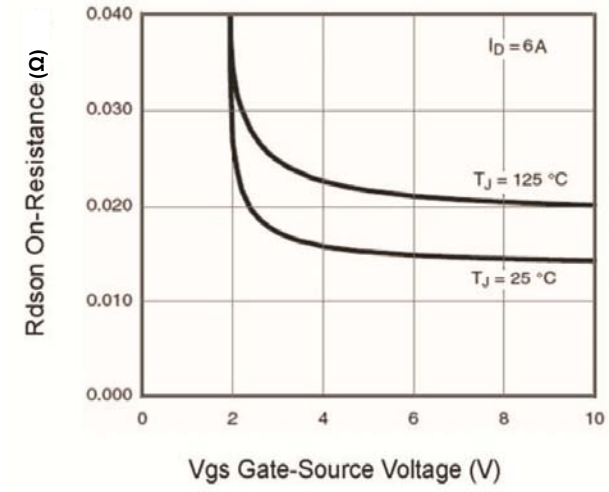


Figure 7 Rdson vs Vgs

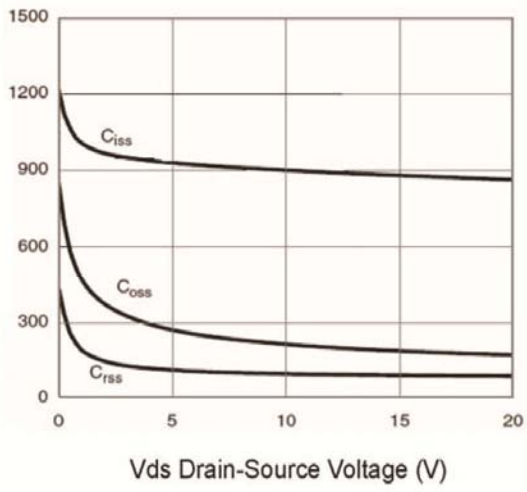


Figure 8 Capacitance vs Vds

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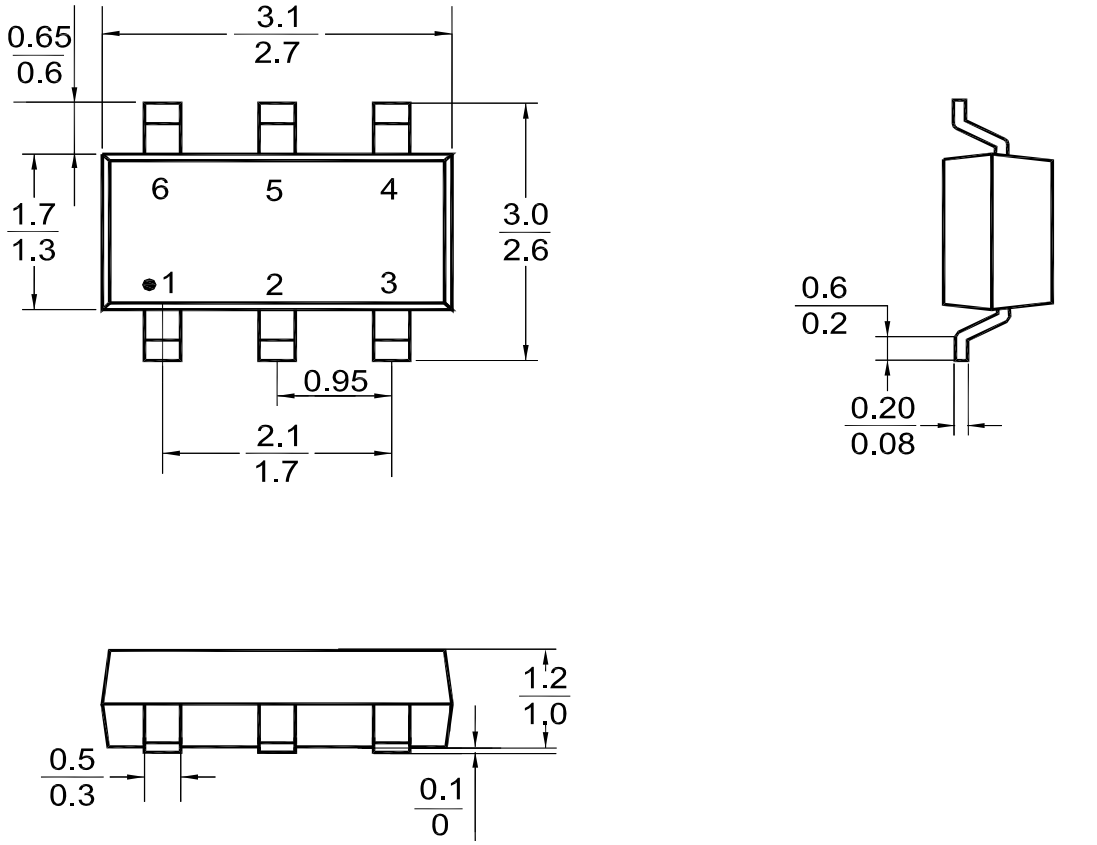
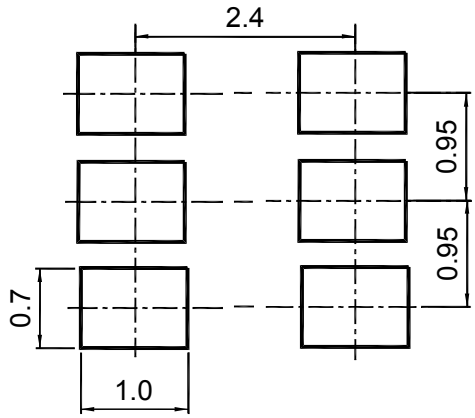
Package Outline Dimensions (Units: mm) **SOT-26**



RECOMMENDED SOLDERING FOOTPRINT



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-26	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000